

**From:** Karis Hastings [<mailto:karis@satcomlaw.com>]  
**Sent:** Friday, February 02, 2018 9:56 AM  
**To:** Tolman, David @ SSG - PE - MT <[David.Tolman@L3T.com](mailto:David.Tolman@L3T.com)>  
**Subject:** [EXT] RE: RE: RE: [L-3COM] Sirius XM Request for Notch-Out of Frequencies from Mustang Technology Application to Renew FCC Experimental License, Call Sign WH2XNP, File No. 0028-EX-CR-2018

Thanks, that resolves Sirius XM's concerns.

Best regards,  
Karis

Karis A. Hastings  
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**From:** Tolman, David @ SSG - PE - MT [<mailto:David.Tolman@L3T.com>]  
**Sent:** Thursday, February 1, 2018 6:49 PM  
**To:** Karis Hastings <[karis@satcomlaw.com](mailto:karis@satcomlaw.com)>  
**Subject:** RE: RE: RE: [L-3COM] Sirius XM Request for Notch-Out of Frequencies from Mustang Technology Application to Renew FCC Experimental License, Call Sign WH2XNP, File No. 0028-EX-CR-2018

Ms. Hastings

Your clarification is definitely acceptable. Any mobile use of the 2315-2320 MHz and 2345-2350 MHz frequency segments will not occur while the transmitting device is higher than 30 meters AGL.

**David Tolman**  
L3 Advanced Systems & Technologies  
Sr. Systems Engineer  
6900 K Avenue  
Plano, TX 75074  
Direct - 972-396-4470  
Cell - 972-897-8373  
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Advanced Systems & Technologies

**From:** Karis Hastings [<mailto:karis@satcomlaw.com>]  
**Sent:** Thursday, February 01, 2018 4:12 PM  
**To:** Tolman, David @ SSG - PE - MT <[David.Tolman@L3T.com](mailto:David.Tolman@L3T.com)>  
**Subject:** [EXT] RE: RE: [L-3COM] Sirius XM Request for Notch-Out of Frequencies from Mustang Technology Application to Renew FCC Experimental License, Call Sign WH2XNP, File No. 0028-EX-CR-2018

Mr. Tolman,

Thanks for this response. We appreciate Mustang's willingness to forego airborne operations in the 2315-2320 MHz and 2345-2350 MHz frequency segments, as we do not see anything in the experimental license conditions that would impose this restriction. However, it would be Sirius XM's preference that Mustang simply remove these band segments from the license to mitigate the risk of interference to the Sirius XM licensed operations. Is that possible?

At a minimum and to avoid any misunderstanding regarding what constitutes an "airborne" operation, we would like Mustang to confirm that any mobile use of the 2315-2320 MHz and 2345-2350 MHz frequency segments would not occur while the transmitting device is higher than 30 meters AGL. Please let me know whether Mustang is willing to accept this limitation.

Also, it's "Ms. Hastings" (not Mr.) – but please feel free to address me as Karis.

Best regards,  
Karis

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**From:** Tolman, David @ SSG - PE - MT [<mailto:David.Tolman@L3T.com>]  
**Sent:** Thursday, February 1, 2018 12:38 PM  
**To:** Karis Hastings <[karis@satcomlaw.com](mailto:karis@satcomlaw.com)>  
**Subject:** RE: RE: [L-3COM] Sirius XM Request for Notch-Out of Frequencies from Mustang Technology Application to Renew FCC Experimental License, Call Sign WH2XNP, File No. 0028-EX-CR-2018

Mr. Hastings –

Mustang is certainly willing to continue to avoid operation on the frequencies indicated (2315-2320 MHz and 2345-2350 MHz) during airborne operations per your request. Our belief is that this is currently documented in the FCC experimental license grant under the special conditions provisions included in the grant.

To further document this, we will include this correspondence with our application for renewal of the experimental license. Do I have your concurrence that this will resolve the concern?

Sincerely -

**David Tolman**

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Advanced Systems & Technologies

**From:** Karis Hastings [<mailto:karis@satcomlaw.com>]

**Sent:** Wednesday, January 31, 2018 2:07 PM

**To:** Tolman, David @ SSG - PE - MT <[David.Tolman@L3T.com](mailto:David.Tolman@L3T.com)>

**Subject:** [EXT] RE: [L-3COM] Sirius XM Request for Notch-Out of Frequencies from Mustang Technology Application to Renew FCC Experimental License, Call Sign WH2XNP, File No. 0028-EX-CR-2018

Mr. Tolman,

I'm familiar with both the correspondence that you submitted with your initial application and with the terms and conditions of the experimental license grant for which Mustang is seeking renewal. However, neither addresses the Sirius XM concerns that the Mustang operations – particularly airborne operations – in the spectrum immediately adjacent to the frequencies licensed to Sirius XM could cause harmful interference to the Sirius XM signal for subscribers within the significant area covered by the experimental authorization.

If Mustang is unwilling to comply with Sirius XM's request for notch out of the 2315-2320 MHz and 2345-2350 MHz band segments or to provide additional information regarding its operations that would allay our concerns, then Sirius XM will submit an objection to the pending application for renewal of the Mustang experimental license. We have typically been able to work out concerns directly with experimental applicants, and that would be our preference here as well, but if that is not possible we will ask the FCC to deny the renewal application or impose additional conditions to prevent harmful interference to the service Sirius XM provides.

Best regards,  
Karis

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**From:** Tolman, David @ SSG - PE - MT [mailto:[David.Tolman@L3T.com](mailto:David.Tolman@L3T.com)]  
**Sent:** Monday, January 29, 2018 5:33 PM  
**To:** Karis Hastings <[karis@satcomlaw.com](mailto:karis@satcomlaw.com)>  
**Subject:** RE: [L-3COM] Sirius XM Request for Notch-Out of Frequencies from Mustang Technology Application to Renew FCC Experimental License, Call Sign WH2XNP, File No. 0028-EX-CR-2018

Mr. Hastings –

I appreciate your concern in this matter, and L3 works hard to ensure our system test events do not interfere with other users of the frequency spectrum.

During FCC coordination, we included all correspondence as part of our submission to the FCC. This correspondence can be viewed by selecting “view correspondence” under the FCC call sign of WH2XNP. The FCC application lists our equipment capabilities, while the experimental license documents the FCC authorized emissions.

When the FCC granted the experimental license it included multiple limitations / special conditions (available by selecting “view grant” under the FCC call sig of WH2XNP).

We have complied with each of these special conditions.

Our requested renewal is for the license to be renewed with the existing limitations / special conditions.

It is our intent to avoid interfering with other systems. A part of system integration, prior to any outside field test events involving transmission our systems are measured in an anechoic chamber to establish a baseline and ensure compliance with our experimental license.

Sincerely,

**David Tolman**  
L3 Advanced Systems & Technologies  
Sr. Systems Engineer

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Advanced Systems & Technologies

**From:** Karis Hastings [<mailto:karis@satcomlaw.com>]  
**Sent:** Friday, January 26, 2018 3:02 PM  
**To:** Tolman, David @ SSG - PE - MT <[David.Tolman@L3T.com](mailto:David.Tolman@L3T.com)>  
**Subject:** [L-3COM][EXT] Sirius XM Request for Notch-Out of Frequencies from Mustang Technology Application to Renew FCC Experimental License, Call Sign WH2XNP, File No. 0028-EX-CR-2018

Dear Mr. Tolman,

I am outside counsel for Sirius XM, the satellite radio service provider. On the company's behalf, I monitor the experimental filings at the FCC for any applications that involve frequencies that overlap with or are close to the licensed Sirius XM frequencies at 2320-2345 MHz. The above-referenced request to renew experimental license WH2XNP came up in that search.

Sirius XM is concerned about the possibility for harmful interference from the operations proposed in this application. In a 2014 email exchange, Mustang requested that Sirius XM consent to its proposed operations when it initially applied for this experimental license. In response, Sirius XM's engineer, Doug Ayerst, asked Mustang to delete from its requested frequencies the 2315-2350 MHz band, so that there would be no transmissions in the Sirius XM licensed frequencies or in the adjacent 5 MHz on either side. A copy of this email discussion is attached.

It appears that Mustang used Sirius XM's email as evidence of coordination with Sirius XM but did not actually comply with Sirius XM's notch out request. Both the initial grant of the experimental authorization for call sign WH2XNP and the above-referenced renewal application specify operations in the 1600-2320 MHz and 2345-2400 MHz bands. Thus, contrary to Sirius XM's request, the 2315-2320 MHz and the 2345-2350 MHz segment remain part of the spectrum for these experimental operations and have not been notched out.

Sirius XM believes that transmissions in the 5 MHz segments adjacent to Sirius XM's licensed bandwidth from an airborne transmitter at the power levels specified for this operation would interfere with reception of the Sirius XM signal by the company's many subscribers in the specified testing area within a 100 km radius of Plano, TX. Accordingly, Sirius XM reiterates its request for notch out of the 2315-2320 MHz and 2345-2350 MHz frequency segments from the license sought in this renewal application.

Can you please get in touch with me regarding this matter? My contact information is below. We would prefer to resolve our concerns directly with you if possible and avoid the need to involve the FCC. Thanks in advance for your cooperation.

Best regards,  
Karis

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Beginning April 1, 2018, L3 Technologies, Inc. will discontinue the use of all @L-3Com.com email addresses. To ensure delivery of your messages to this recipient, please update your records to use [David.Tolman@L3T.com](mailto:David.Tolman@L3T.com).